US005635989A

United States Patent [19]

Rothmuller

[11] Patent Number: 5,635,989

[45] Date of Patent: Jun. 3, 1997

[54] **METHOD AND APPARATUS FOR SORTING AND SEARCHING A TELEVISION PROGRAM GUIDE**

[75] Inventor: **Michael Rothmuller**, San Diego, Calif.

[73] Assignee: **Hughes Electronics**, Los Angeles, Calif.

[21] Appl. No.: **600,576**

[22] Filed: **Feb. 13, 1996**

[51] **Int. Cl.**[6] **H04N 7/17**

[52] **U.S. Cl.** **348/563**; 348/1; 348/10; 348/553; 348/569; 348/906

[58] **Field of Search** 348/906, 12, 13, 348/1, 2, 5, 6, 10, 468, 473, 553, 563, 569

[56] **References Cited**

U.S. PATENT DOCUMENTS

4,751,578	6/1988	Reiter et al.	348/13 X
5,253,066	10/1993	Vogel	348/906 X
5,410,367	4/1995	Zahavi et al.	348/725
5,479,268	12/1995	Young et al.	348/13
5,485,197	1/1996	Hoarty	348/12
5,488,409	1/1996	Yuen et al.	348/5

OTHER PUBLICATIONS

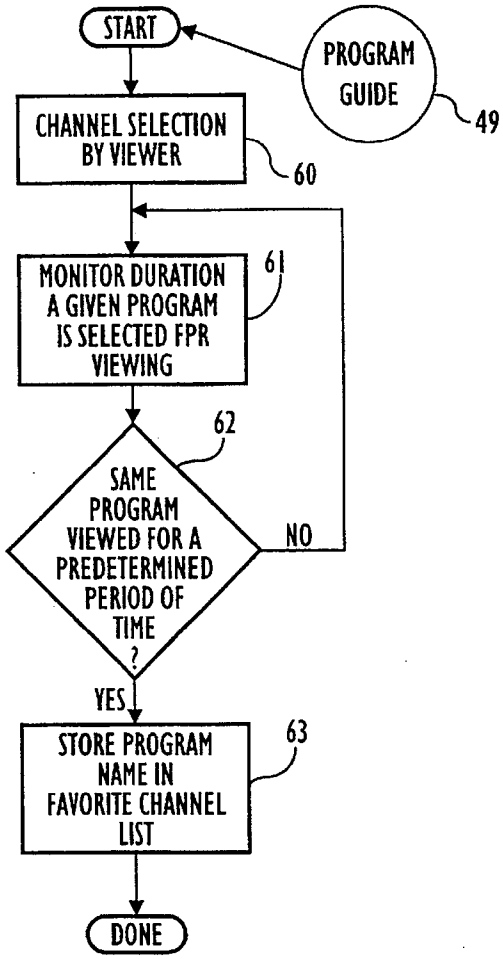
VideoGuide User's Manual, VideoGuide, Inc., pp. 11–15 1995.

Primary Examiner—John K. Peng
Assistant Examiner—Nathan J. Flynn
Attorney, Agent, or Firm—John T. Whelan; Wanda Denson-Low

[57] **ABSTRACT**

A method and apparatus for searching a program guide comprising program information for a plurality of different program sources. The program information includes the titles of the programs, the channel on which each program is to be shown, and the time at which each program is to be shown. The viewer first enters the title of a desired program. The program guide is then reviewed so as to identify each occurrence of the title of the desired program. If the desired program is contained in the guide, the time and channel associated with each identified occurrence of the program is displayed.

15 Claims, 5 Drawing Sheets



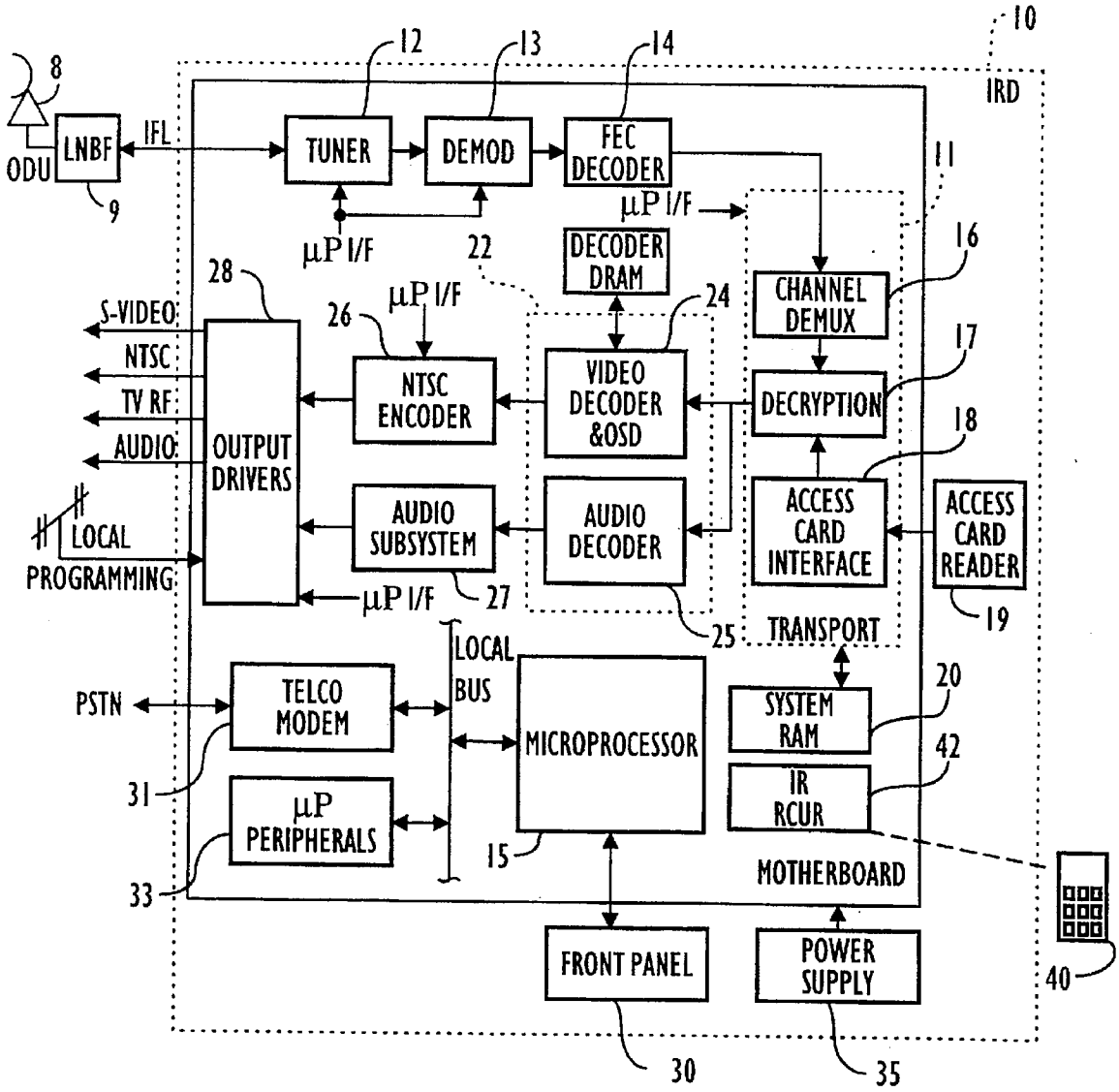

10
IRD
8
ODU
LNBF
9
IFL
12
TUNER
13
DEMOD
14
FEC DECODER
11
μP I/F
μP I/F
22
DECODER DRAM
16
CHANNEL DEMUX
28
S-VIDEO
NTSC
TV RF
AUDIO
OUTPUT DRIVERS
26
μP I/F
NTSC ENCODER
VIDEO DECODER &OSD
24
17
DECRYPTION
18
ACCESS CARD INTERFACE
ACCESS CARD READER
19
LOCAL PROGRAMMING
AUDIO SUBSYSTEM
AUDIO DECODER
μP I/F
27
25
TRANSPORT
LOCAL BUS
PSTN
TELCO MODEM
31
μP PERIPHERALS
33
MICROPROCESSOR
15
SYSTEM RAM
20
IR RCUR
42
MOTHERBOARD
40
FRONT PANEL
POWER SUPPLY
30
35

FIG. 1

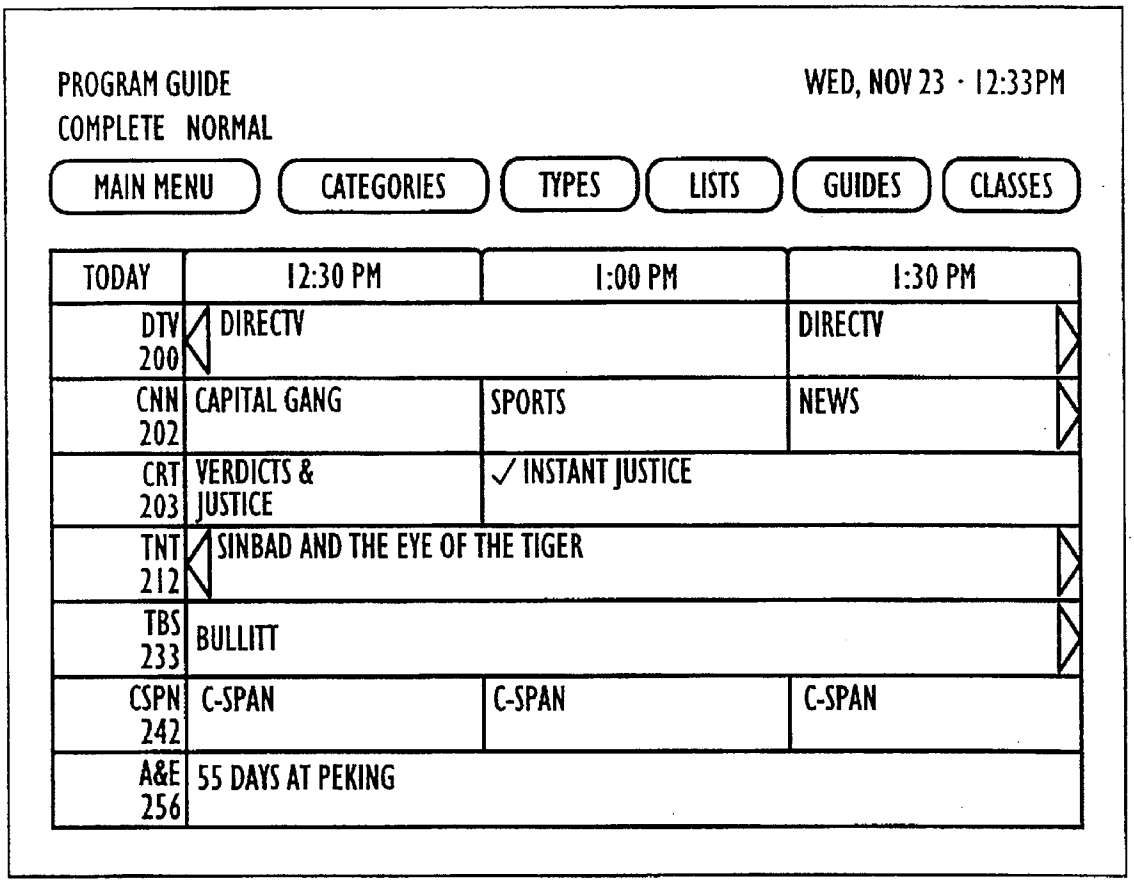

PROGRAM GUIDE
WED, NOV 23 · 12:33PM
COMPLETE NORMAL
MAIN MENU
CATEGORIES
TYPES
LISTS
GUIDES
CLASSES
TODAY
12:30 PM
1:00 PM
1:30 PM
DTV 200
DIRECTV
DIRECTV
CNN 202
CAPITAL GANG
SPORTS
NEWS
CRT 203
VERDICTS & JUSTICE
✓ INSTANT JUSTICE
TNT 212
SINBAD AND THE EYE OF THE TIGER
TBS 233
BULLITT
CSPN 242
C-SPAN
C-SPAN
C-SPAN
A&E 256
55 DAYS AT PEKING

FIG. 2

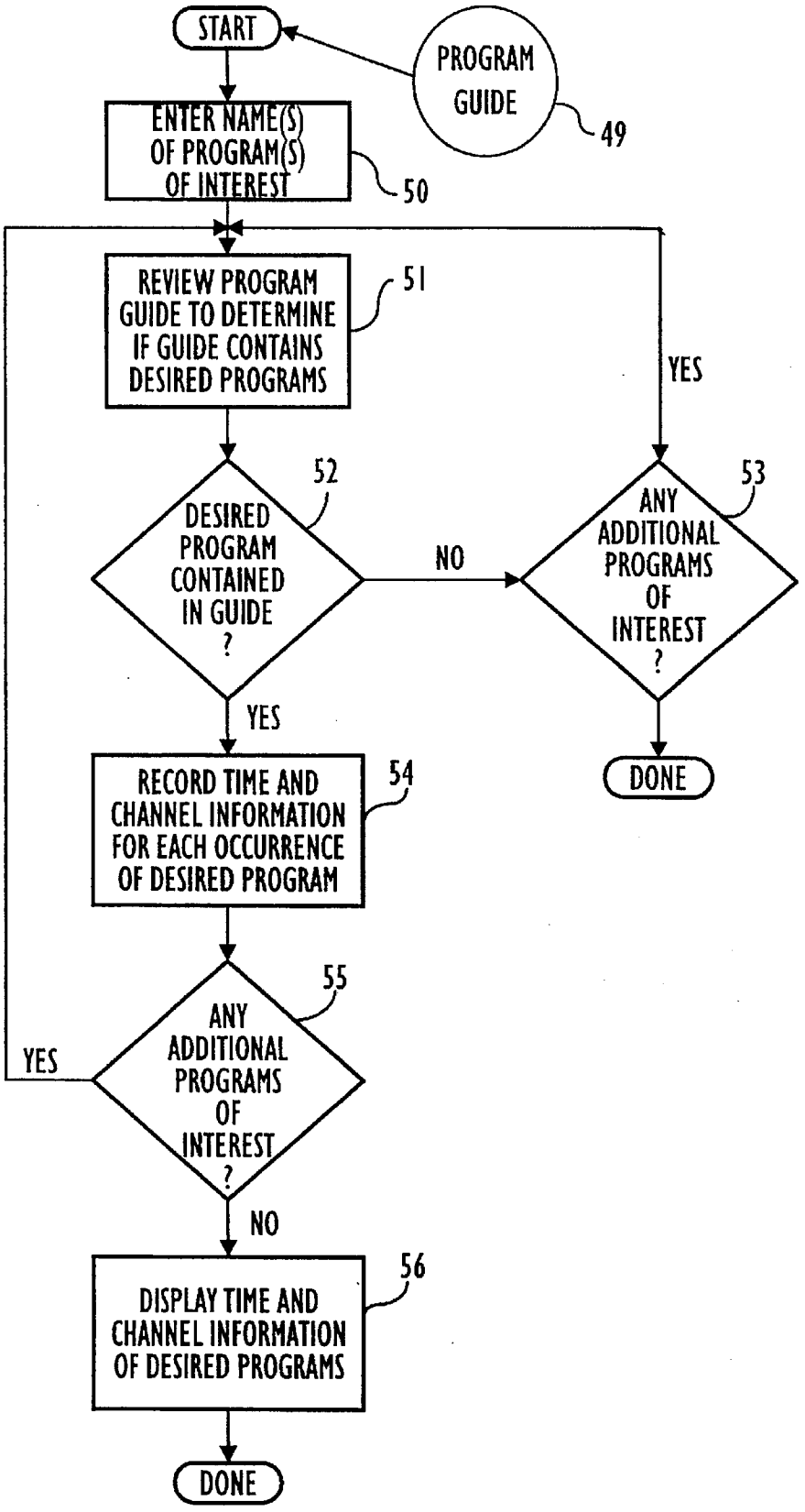

START
PROGRAM GUIDE
49
ENTER NAME(S) OF PROGRAM(S) OF INTEREST
50
REVIEW PROGRAM GUIDE TO DETERMINE IF GUIDE CONTAINS DESIRED PROGRAMS
51
YES
52
DESIRED PROGRAM CONTAINED IN GUIDE ?
NO
53
ANY ADDITIONAL PROGRAMS OF INTEREST ?
YES
DONE
RECORD TIME AND CHANNEL INFORMATION FOR EACH OCCURRENCE OF DESIRED PROGRAM
54
55
ANY ADDITIONAL PROGRAMS OF INTEREST ?
YES
NO
DISPLAY TIME AND CHANNEL INFORMATION OF DESIRED PROGRAMS
56
DONE

FIG. 3

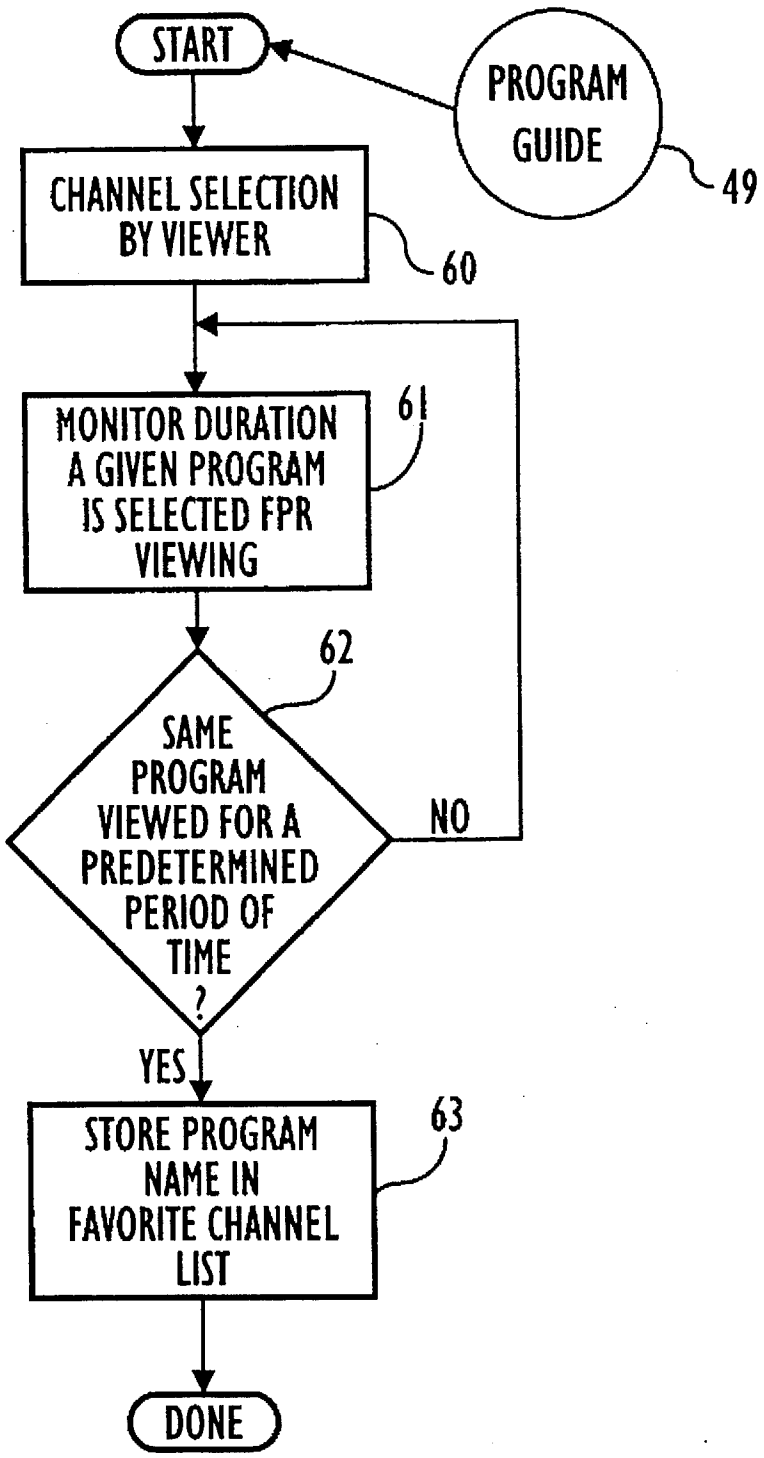

START
PROGRAM GUIDE
49
CHANNEL SELECTION BY VIEWER
60
MONITOR DURATION A GIVEN PROGRAM IS SELECTED FPR VIEWING
61
62
SAME PROGRAM VIEWED FOR A PREDETERMINED PERIOD OF TIME ?
NO
YES
STORE PROGRAM NAME IN FAVORITE CHANNEL LIST
63
DONE

FIG. 4

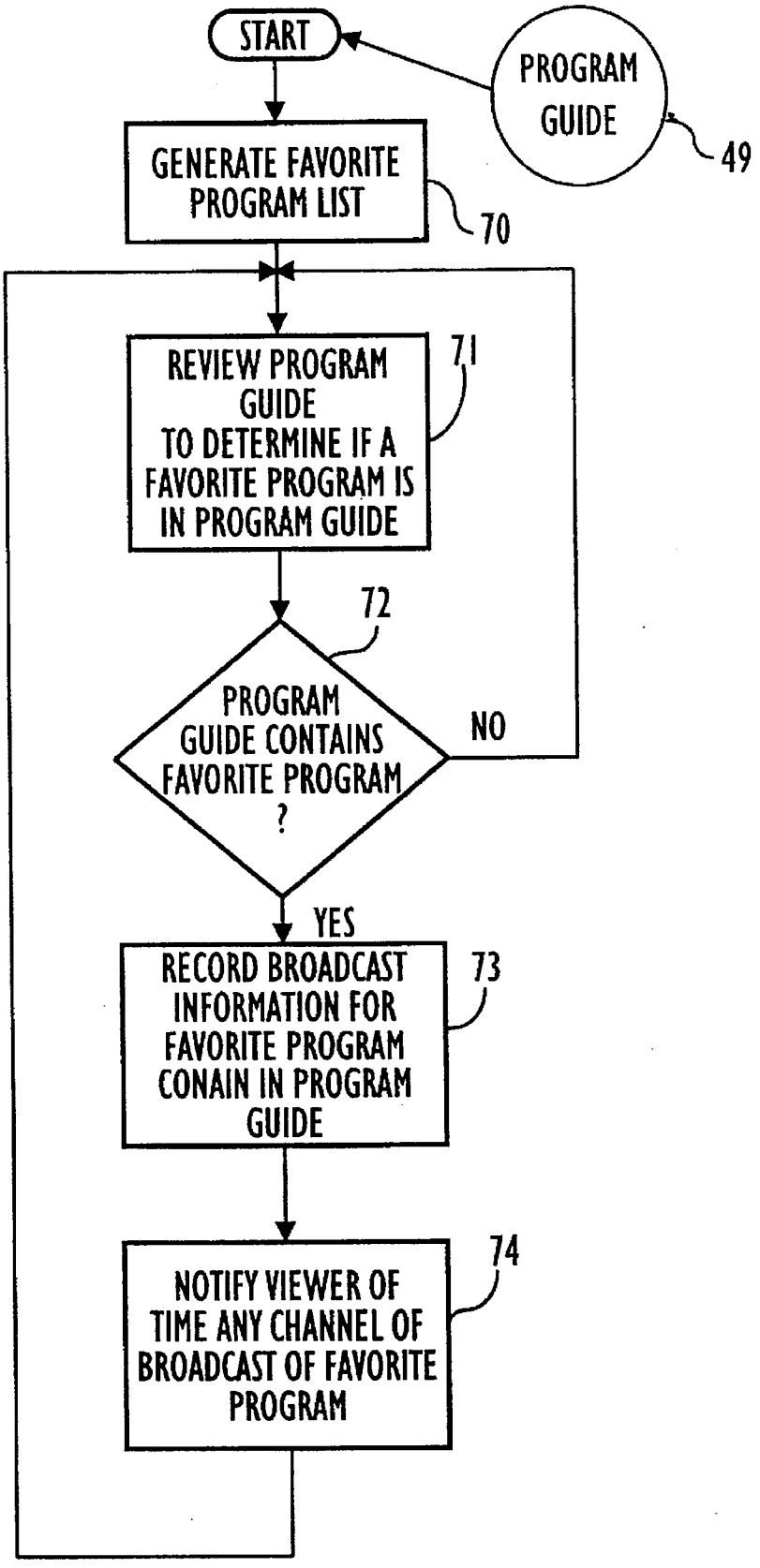

START
PROGRAM GUIDE
49
GENERATE FAVORITE PROGRAM LIST
70
REVIEW PROGRAM GUIDE TO DETERMINE IF A FAVORITE PROGRAM IS IN PROGRAM GUIDE
71
72
PROGRAM GUIDE CONTAINS FAVORITE PROGRAM ?
NO
YES
RECORD BROADCAST INFORMATION FOR FAVORITE PROGRAM CONAIN IN PROGRAM GUIDE
73
NOTIFY VIEWER OF TIME ANY CHANNEL OF BROADCAST OF FAVORITE PROGRAM
74

FIG. 5

METHOD AND APPARATUS FOR SORTING AND SEARCHING A TELEVISION PROGRAM GUIDE

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates generally to a subscription television system, and more particularly, to a method and apparatus for sorting and searching program guides based on the viewer's favorite programs.

2. Description of the Prior Art

As the subscription television industry has grown, providers of subscription television continually offer more and more channels to the individual subscriber. Typical systems offer more than 100 different channels. Such systems also typically display a channel or program guide, which identifies all available channels, the programs currently airing on each channel and upcoming programs.

For example, U.S. Pat. No. 4,751,578, U.S. Pat. No. 5,353,121 (the '121 patent), U.S. Pat. No. 5,253,066, all of which are herein incorporated by reference, disclose typical channel guides. As shown, for example, in FIG. 1 of the '121 patent, the channel guide comprises a plurality of channel identifiers and a listing of the shows and programs upcoming on each channel. The channel guide illustrated in FIG. 1 is sorted (i.e., arranged or ordered) by channel number (i.e., program source).

Such known systems for generating channel guides allow the viewer to sort the guide on the basis of predefined categories or themes, such as, movies, sports, news, etc., or by a user defined favorite channel list. Sorting the channel guide by themes allows the viewer to display a subset schedule of the entire channel guide, which contains only programs in the selected category. The user defined favorite channel list allows the user to specify favorite channels and then define the order in which those channels will be displayed in the channel guide.

Notwithstanding the foregoing methods of sorting and displaying the channel guide, the necessity to scan over a significant number of channels, typically in excess of 100, in an effort to determine whether a specific television program is airing currently, or sometime in the near future, remains a significant problem. For example, assuming the viewer desires to watch an episode of Star Trek™, current systems do not provide a simple means for the user to determine the next time the program will be broadcast or aired. Indeed, at any given time, Star Trek™ could be airing on any of a number of channels. As such, the viewer would be forced to scan the entire guide and review programs currently airing, as well as future events for all channels, to determine all scheduled broadcasts of the desired program. With the plethora of channels provided by most systems, this searching can require a considerable amount of time.

Accordingly, there exists a need for displaying and sorting a channel guide which allows the viewer to readily determine and identify when a desired program will be broadcast without the viewer having to perform an extensive search on the entire channel guide for current and future events.

SUMMARY OF THE INVENTION

The present invention provides a method and apparatus for sorting and displaying a channel guide which satisfies the aforementioned needs. Specifically, the present invention provides a method and apparatus for sorting and displaying a channel guide based on the name or title of the program.

The present invention relates generally to a method of searching a program guide comprising program information for a plurality of different program sources. The program information includes the titles of the programs, the channel on which each program is to be shown, and the time at which each program is to be shown. According to the novel method, the viewer first enters the title of a desired program. The program guide is then reviewed so as to identify each occurrence of the title of the desired program. If the desired program is contained in the guide, the time and channel associated with each identified occurrence of the program is displayed on a display screen.

The present invention also relates generally to a method of generating a favorite program list from a program guide comprising program information, including the titles of the programs, for a plurality of different program sources. The method comprises the steps of monitoring the duration of time a given program is selected for viewing, and then storing the title of the program in memory means if the program is selected for viewing for a prespecified period of time. The titles of programs stored in the memory means form the favorite program list.

The present invention also relates generally to an alternative method of generating a favorite program list from a program guide comprising program information, including the titles of the programs, for a plurality of different program sources. The method comprises enabling a viewer to designate the title of a program to be included on the favorite program list, and then storing the title of the viewer-designated program in memory means. The titles of programs stored in the memory means form the favorite program list.

The present invention also relates generally to a method of notifying a viewer when a predetermined favorite program is to be broadcast. The method comprises generating a favorite program list which includes the titles of programs, analyzing the favorite program list to determine if any program on the favorite program list is included in a program guide comprising program information for a plurality of different program sources, and notifying the viewer, for example, via an on-screen message or prompt, if any program on the favorite program list is included in the program guide.

As described in detail below, the method and apparatus of the present invention provide important advantages over the prior art. Most importantly, the present invention allows the viewer to readily determine and identify when a desired program will be broadcast without the need for performing an extensive search of the entire channel guide for current and future events.

The invention itself, together with further objects and attendant advantages, will best be understood by reference to the following detailed description, taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a functional block diagram of an apparatus capable of generating program guides and display screens in accordance with the present invention.

FIG. 2 illustrates an exemplary program guide produced by the apparatus of FIG. 1.

FIG. 3 is a flow chart illustrating a method of generating a display screen identifying each occurrence of a specified program in accordance with the present invention.

FIG. 4 is a flow chart illustrating an exemplary method of generating a favorite program list.

FIG. 5 is a flow chart illustrating a method of notifying a viewer when a predetermined favorite program is to be broadcast.

DETAILED DESCRIPTION OF THE DRAWINGS

FIG. 1 is a functional block diagram of an apparatus **10** capable of generating program guides and display screens in accordance with the present invention. As shown in FIG. 1, the apparatus **10** includes receiving means comprising tuner **12**, demodulator **13** and FEC decoder **14**. The receiving means is controlled by a microprocessor **15**, and operates to receive a signal which includes program guide information, and video and audio information for all channels available on the given system.

In the embodiment of FIG. 1, an antenna **8** and low noise filter **9** function to receive the signal from a satellite source and to couple the signal to the tuner **12** of the receiving means of the apparatus **10**. However, it is noted that the present invention is not limited to system providers which utilize satellite transmissions to broadcast signals. The novel system of the present invention could be readily used with system providers who supply signals via, for example, cable or telephone lines. The program guide information could also be provided via such mediums as CD ROM.

Upon receipt of the signal, tuner **12** functions to down-convert the received signal to an intermediate frequency ("IF") signal. The IF signal is then converted to a digital equivalent by the demodulator **13** and coupled to FEC decoder **14**, which provides forward error correction on the received signal.

Apparatus **10** also comprises a transport chip **11**. The transport chip **11** preferably comprises a channel demultiplexor **16**, a decryption unit **17** and an access card interface **18**. The output of the FEC decoder **14** is coupled to the channel demultiplexor **16**, which functions to separate the audio and video information of each channel, and also separates the program guide information. Under control of the microprocessor **15**, the channel demultiplexor **16** provides at its output port, the audio and video information of a selected channel or the program guide information.

Transport chip **11** further comprises an access card reader **19** which is coupled the access card interface **18**. The access card interface **18** operates in conjunction with the decryption unit **17** and the access card reader **19** to provide a means of preventing, for example, unauthorized pay-per-view movies from being ordered by children.

Apparatus **10** further comprises a telco modem **31** which allows the microprocessor **15** to be coupled to the public telephone network, microprocessor peripherals **33**, such as CD ROM, and a power supply **35** for supplying power.

In the satellite system illustrated in FIG. 1, multiple transponders located in a satellite (not shown) are utilized to transmit channel information (e.g., audio, video) to the apparatus **10**. Each transponder transmits information regarding multiple channels (i.e., multiple program sources, such as ABC, CBS, etc.). However, each transponder also transmits the program guide information for every channel provided by the system provider on one of the frequencies available within the given transponder.

As such, regardless of which transponder the tuner **12** is tuned to, the program guide information is available at the output of the channel demultiplexor **16**. Under control of the microprocessor **15**, the program guide information is stored in random access memory ("RAM") **20**, which is coupled to the transport chip **11**. The system RAM **20** also functions to buffer the digital data associated with the audio and video data of a given channel.

The microprocessor **15** operates to periodically update the program guide information stored in the system RAM **20**. In the present embodiment, the program guide information is preferably updated one of two ways. First, the microprocessor **15** periodically analyzes the program guide information transmitted by the system provider to determine if the information has been updated. This can be accomplished, for example, by utilizing a flag bit which indicates that the program guide has been modified. If the program guide has been modified, the microprocessor **15** stores the updated guide in the system RAM **20**. Second, as an independent process, the microprocessor **15** monitors an expiration date/time transmitted along with the program guide information. Upon reaching the expiration date/time, the microprocessor **15** updates the program guide stored in system RAM **20** with the program guide currently being transmitted.

Returning to FIG. 1, the apparatus **10** of the present invention further comprises a MPEG chip **22**. The MPEG chip **22** comprises a video decoder and an on-screen display **24**, and an audio decoder **25**. The MPEG chip **22** functions to decompress the audio and video data output by the channel demultiplexor **16**, which is transmitted by the provider in a compressed format. The NTSC encoder **26** and audio subsystem **27** format the decompressed audio and video data, respectively, for display on, for example, a television receiver. The output drivers **28** function to transmit the audio and video information of a selected channel to the display screen of the television receiver.

In the event the subscriber/viewer selects to display the program guide, which can be accomplished by selecting the predefined channel associated with the program guide, via front panel **30** or a remote control **40**, the microprocessor **15** retrieves the program guide information from system RAM **20**, and then accesses a font table stored in memory. The microprocessor **15** then converts the program guide information stored in memory **20** into a displayable font data. The displayable font data is then coupled to the MPEG chip **22**. As described above, the MPEG chip **22** in combination with NTSC encoder **26** and the output drivers **28**, functions to write the program guide information to the television receiver at the start of the next available frame. FIG. 2 illustrates an exemplary program guide produced by apparatus **10**. As shown in FIG. 2, each screen of the program guide comprises approximately seven program sources and the corresponding programs. The program source and the programs being shown thereon are displayed on a single line comprising multiple cells of varying length. The first cell in each line indicates the program source and the channel number assigned to the source. In order to view additional program information, the viewer simply presses a designated key, such as a page down key (i.e., scroll down key), and the foregoing process is repeated for the new program data to be displayed.

In accordance with the present invention, the apparatus **10** is also capable of generating a display screen identifying each occurrence of user-specified programs of interest (i.e., favorite programs). FIG. 3 is a flow chart illustrating a method of generating such a display screen. Referring to FIG. 3, the first step **50** in the method requires the viewer to enter the title of each program of interest (e.g., Star Trek™). One method of entering the title of the program is via an infra-red "IR" remote **40** control device. (The IR remote **40** includes a switch array which provides means for users to issue instructions to the microprocessor **15**. The IR remote **40** communicates with the microprocessor **15** via IR receiver **42**.) To enter the title, the viewer maneuvers a cursor on the program guide **49**, for example, as shown in FIG. 2, so as to

highlight the program of interest. Once the program is highlighted, the viewer depresses a SEARCH key provided on the IR remote **40**.

Depression of the SEARCH key commands the microprocessor **15** to determine if the program currently highlighted by the viewer is contained anywhere else in the program guide (Step **51**). More specifically, upon depression of the SEARCH key, a search command is forwarded to the microprocessor **15** via the IR receiver **42**. Upon receipt of the search command, the microprocessor **15** records the title of the program currently identified and compares the recorded title with the title of each program contained in the current program guide **49** stored in RAM **20** (Step **52**). If no additional matches are found, the process proceeds to Step **53** to determine if any additional program titles need to be compared to the program guide **49**. If there are no additional program titles, the process is complete.

Returning to step **52**, if additional matches are found, the microprocessor **15** records the channel of broadcast and time of broadcast of each occurrence of the program (Step **54**), and then proceeds to determine if additional program titles need to be compared to the program guide **49** (Step **55**). If not, the process proceeds to Step **56** and displays the time and channel information recorded in Step **54** for each occurrence of a desired program. The information is displayed on the display screen via the same components utilized to display the program guide.

Alternatively, the title of the desired program can be entered via a keyboard (not shown) and/or an IR remote which provides for entry of alphanumeric characters. The keyboard or IR remote must be coupled to the microprocessor via an appropriate data channel. According to this entry method, the viewer types the title of the program to be located. The viewer then depresses a SEARCH key located on the keyboard or IR remote, which causes the transfer of the program title to the microprocessor **15**, and which commands the microprocessor **15** to perform the search as described above.

As noted, the foregoing method of the present invention provides for multiple programs to be searched simultaneously. More specifically, during the title entry process, the viewer may enter multiple titles, either by highlighting multiple titles or via the keyboard. In the event that multiple titles are entered, the microprocessor **15** searches the program guide **49** currently stored in RAM **20** for each program title, and all occurrences of each program title are identified on the display screen.

It is also noted that all steps subsequent to step **50** in the foregoing process are performed automatically by the microprocessor **15**.

As mentioned above, the present invention also relates to a method for automatically generating a favorite program list. The favorite program list identifies by title, the programs most frequently watched by the viewer. The favorite program list can also include information, such as, the time and channel of the next occurrence of each program contained in the favorite program list.

FIG. **4** is a flow chart illustrating an exemplary method for automatically generating a favorite program list. As shown in FIG. **4**, once the viewer selects a channel for viewing (step **60**), the microprocessor **15** records the time the viewer selected the channel and the name (i.e., title) of the program currently broadcasting on the selected channel. If the viewer continuously views the same program for a predetermined period of time, the microprocessor **15** functions to store the title of the program in memory, for example, system RAM **20**. Each time a given program is viewed for a period of time exceeding the predetermined period of time, the program title is stored in memory. The list of program titles stored in memory **20** forms the favorite program list.

More specifically, the microprocessor **15** operates to tune the tuner **12** to the desired channel in response to the viewer's channel selection (Step **60**). In accordance with the present method, upon forwarding a tuning command to the tuner **12**, the microprocessor **15** records the selected channel and starts a counter (Step **61**). The microprocessor **15** also records the title of the program currently broadcasting on the selected channel. The title of the program is obtained by retrieving the program guide information associated with the selected channel from memory **20**. As noted above, the program guide information for every channel is transmitted by the system provider and stored in memory **20**. If the viewer continues watching the same program for a predetermined period of time (Step **62**), the microprocessor **15** stores the title of the program in memory **20** in a list, which has heretofore been referred to as the favorite program list (Step **63**). The predefined period of time is programmable, and can be set by the viewer.

Each time a program is viewed for a duration exceeding the predetermined period of time, the microprocessor **15** will function to store the title of the program on the favorite program list. The microprocessor **15** also functions to store the date and time the program title was added to the favorite program list. If the program title is already on the list, the microprocessor **15** simply functions to update the date and time stamp of the given program. Furthermore, the microprocessor **15** can be programmed to arrange the ordering of the programs contained on the favorite program list on the basis of which programs are most frequently watched. Thus, the most watched program will appear first in the favorite program list, the second most frequently watched program will appear second, and so on. Of course, the microprocessor **15** will arrange the ordering of the list as necessary to maintain the proper order.

The present method also provides for the deletion of program titles from the favorite program list. For example, in the event that the memory allocated for the favorite program list is full and a new program title should be stored, the microprocessor **15** will determine the program title having the oldest (i.e., most prior in time) date/time stamp and then replace the oldest program title with the new program title to be stored.

Another method of deleting program titles from the favorite program list is to automatically remove the program title from the list after expiration of a predefined time period. According to this method, if the date/time stamp associated with a given program exceeds the predefined time, for example, two months, the program title is removed from the list. The microprocessor **15** can be programmed to periodically review the favorite program list to determine if any programs should be deleted. This method provides a means for automatically "aging" programs off the favorite program list. The period of time prior to expiration is also programmable, and can be set by the viewer.

In an alternative method for generating a favorite program list, the viewer designates the titles of the programs to be included on the favorite program list. More specifically, the viewer commands apparatus **10** to display the program guide **49** on the display screen. Then, the viewer maneuvers a cursor on the program guide so as to highlight the program of interest. Once the program is highlighted, the viewer depresses a FAV-STORE key provided on the IR remote **40**.

Depression of the FAV-STORE key commands the microprocessor **15** to determine if the program currently highlighted by the viewer is contained on the favorite program list. More specifically, upon depression of the FAV-STORE key, a command is forwarded to the microprocessor **15** via the IR receiver **42** which instructs the microprocessor **15** to review the current favorite program list and add the program title to the list, in the event the program title is not already on the list.

If the program title is currently on the favorite program list, the microprocessor **15** generates a message which is displayed on the display screen inquiring whether the viewer desires to delete the highlighted program title from the favorite program list. If so, the viewer depresses a DELETE key provided on the IR remote **40**. Depression of the DELETE key commands the microprocessor **15** to delete the highlighted program title from the favorite program list.

Alternative methods of entering program titles on the favorite program list include depression of the FAV-STORE key when viewing a specific program. When the FAV-STORE key is depressed while viewing a program, the microprocessor **15** records the title of the program currently broadcasting on the selected channel by retrieving the program guide information associated with the selected channel from memory **20**. The microprocessor **15** then stores the program title of the current program on the favorite program list if it is not there already. If the program title is already contained on the list, the microprocessor **15** generates the delete prompt as described above.

It is noted that the favorite program list generated by either method described above can be displayed on command of the viewer. The favorite program list identifies each occurrence of the programs contained in the current program guide. In other words, the favorite program list identifies, at a minimum, the time and channel of each occurrence of the programs. Further, in the event that no program on the favorite program list is contained in the program guide, the viewer is notified of this fact via a display screen.

The present invention also relates to a method of notifying a viewer when a favorite program is to be broadcast. The method allows the viewer to be notified in advance, via an on-screen message, that a program on the favorite program list will be broadcast in the near future. The viewer can specify how far in advance (e.g., 5 minutes, 30 minutes, etc.) the notification occurs.

Referring to FIG. **5**, the first step in the method (Step **70**) comprises generating a favorite program list. This can be accomplished, for example, by any of the various methods described above. Once the viewer activates the apparatus **10**, the microprocessor **15** periodically compares the favorite program list to the program guide **49** currently stored in memory **20** (Steps **71** and **72**). In the event that a program on the favorite program list is contained in the program guide **49**, the microprocessor **15** records the title of the program, the time of broadcast and the channel of broadcast (Step **73**). Then, at a predetermined time prior to broadcast, the microprocessor **15** generates an on-screen message containing this information (Step **74**).

In the event that a favorite program is being broadcast when the apparatus **10** is initially turned on, the microprocessor **15** will generate an on-screen message in the same manner as described above to inform the viewer that a favorite program is currently running. The message will indicate the title of the program, the channel of broadcast and that the program is currently on.

In the event that a plurality of favorite programs are to be broadcast at the same time, the on-screen message generated by the microprocessor **15** preferably lists all such programs, as well as their respective channels and start times.

The foregoing method also allows the viewer to command the microprocessor **15** to automatically tune the receiver to the channel broadcasting the favorite program at the appropriate time. More specifically, upon receiving an on-screen display indicating that a favorite program will be broadcast in the near future, the microprocessor **15** generates an "Auto-Tune" prompt which is also displayed on the display screen. If auto-tuning is desirable, the viewer depresses an AUTO-TUNE key provided on the IR remote **40**. Depression of the AUTO-TUNE key commands the microprocessor **15** to record the channel and time of broadcast of the favorite program, and subsequently to tune the tuner **12** to the appropriate channel at the time of broadcast.

The method and apparatus of the present invention provides several important advantages over the prior art. Most importantly, the present invention allows the viewer to readily determine and identify when a desired program will be broadcast without the need for performing an extensive search of the entire channel guide for current and future events.

In addition, each of the favorite program lists described above can be employed to create timer events, which are utilized to control devices, such as a VCR for recording a future program. For example, a viewer can bring-up a favorite program list and select a program for which a timer event should be created. Upon selection of the program, the microprocessor **15** accesses the relevant information (i.e., date, time channel, length) which is stored in the favorite program list, and then forwards this information to the designated device at the appropriate time.

Of course, it should be understood that a wide range of changes and modifications can be made to the preferred embodiment described above. It is therefore intended that the foregoing detailed description be regarded as illustrative rather than limiting and that it be understood that it is the following claims, including all equivalents, which are intended to define the scope of the invention.

What is claimed is:

1. A method of generating a favorite program list from a program guide comprising program information for a plurality of different program sources, said program information includes the titles of the programs, said method comprising the steps of:

enabling a viewer to designate the title of a program to be included on said favorite program list; and

storing the title of the viewer-designated program in memory means,

said titles of programs stored in said memory means forming said favorite program list.

2. The method of generating a favorite program list according to claim **1**, wherein designating the title of a program comprises selecting the desired program from said program guide via user input means.

3. The method of generating a favorite program list according to claim **1**, wherein designating the title of a program comprises depression of a predetermined key on said user input means while viewing the desired program.

4. The method of generating a favorite program list according to claim **1**, wherein said favorite program list includes the channel on which each program is to be shown, and the time at which each program is to be shown.

5. The method of generating a favorite program list according to claim **4**, wherein said favorite program list is displayed.

6. The method of generating a favorite program list according to claim 1, further comprising the step of:

storing the title of the program in memory means if said program is selected for viewing for a prespecified period of time.

7. The method of generating a favorite program list according to claim 1, further comprising the step of:

deleting a title of a program stored in said memory means if said program is not selected for viewing for a prespecified period of time.

8. The method of generating a favorite program list according to claim 1, wherein said favorite program list is utilized to create a timer event.

9. An apparatus for generating a favorite program list from a television program guide, said apparatus comprising:

means for receiving a signal, said signal including program information for a plurality of different program sources, said program information including the titles of the programs, the channel on which each program is to be shown, and the time at which each program is to be shown;

memory means coupled to said receiving means;

user input means for enabling a viewer to designate a title of a program to be included on said favorite program list, said title being stored in said memory means;

a system controller coupled to said memory means and said user input means, said system controller operative for storing the title of the program designated by said viewer in said memory means; and

display means coupled to said system controller, said display means operative for displaying said titles of programs stored in said memory means forming said favorite program.

10. The apparatus for generating a favorite program list according to claim 9, wherein designating the title of a program comprises selecting the desired program from said program guide via user input means.

11. The apparatus for generating a favorite program list according to claim 9, wherein said favorite program list includes the channel on which each program is to be shown, and the time at which each program is to be shown.

12. A method according to claim 1, wherein said titles of programs forming said favorite program list are arranged on the basis of which programs are most frequently watched.

13. An apparatus according to claim 9, wherein said titles of programs forming said favorite program list are arranged on the basis of which programs are most frequently watched.

14. A method of generating a favorite program list from a program guide comprising program information for a plurality of different program sources, said program information including the titles of the programs, said method comprising the steps of:

monitoring the duration of time a program is selected for viewing; and

storing the title of the program in memory means if said program is selected for viewing for a prespecified period of time,

said titles of programs stored in said memory means forming said favorite program list,

and wherein a viewer can store the title of a program in said memory means.

15. An apparatus for generating a favorite program list from a television program guide, said apparatus comprising:

means for receiving a signal, said signal including program information for a plurality of different program sources, said program information including at least the titles of the programs, the channel on which each program is to be shown, and the time at which each program is to be shown;

memory means coupled to said receiving means;

user input means for selecting a program for viewing;

a system controller coupled to said memory means and said user input means, said system controller operative for monitoring the duration of time a program is selected for viewing, and for storing the title of the program in said memory means if said program is selected for viewing for a prespecified period of time; and

display means coupled to said system controller, said display means operative for displaying said titles of programs stored in said memory means forming said favorite program list, wherein said user input means further operates to allow an operator input a title of a program in said memory means.

* * * * *